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10/572,755	03/20/2006	Raul Hess	HESS	9551

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EXAMINER
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ART UNIT	PAPER NUMBER
4192	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/572,755	HESS, RAUL
	Examiner	Art Unit	
	ABDERRAHIM MEROUAN	4192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>20 March 2006</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>11-21</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>11-21</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

       1.☒ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12September2006</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it contains the legal terms: means and said. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   As per claims 11 -18. They are rejected under 35 U.S.C 102(b) as being clearly anticipated by Williams (U.S. Patent   6300595 B1) hereinafter referred as Williams.

As per claim 11 Williams teaches:

approximating the surface of the workpiece through a plurality of polygons in the form of superposed polygon networks, (Williams, Column 1, lines 41 to 45)

determining work areas to be machined on the three-dimensional surface of the workpiece through the focal cuboid of a removal agent. (Williams, Column 1, lines 46 to 49)

assigning each polygon of the polygon network to a work area, and (Williams, Column 1, lines 49 to 51)

removing material in a point-wise manner from each work area by the laser, thereby generating a surface structure on the three- dimensional surface (Williams, Column 1, lines 65 to 66, column 2, lines 1 to 3)

As per claim 12 Williams teaches:The process according to claim 11, claim 12 adds into claim 11:

The process according to claim 11, wherein the removal agent is a laser. (Williams, Column 1, lines 37 to 40)

As per claim 13 Williams teaches:The process according to claim 11, claim 13 adds into claim 11:

wherein the surface structure is described by at least one grey level bitmap. (Williams, Column 4, lines 5 to 10)

As per claim 14 Williams teaches:The process according to claim 13, claim 14 adds into claim 13:

wherein the grey level bitmap includes image spots of different grey levels or different color levels. (Williams, Column 3, lines 63 to 66 and column 4 , line 1)

As per claim 15 Williams teaches:The process according to claim 14, claim 15 adds into claim 14:

wherein a depth of the material removal is determined by one of, a brightness of the grey level corresponding to each image spot of the grey level bit map or an intensity of the color level. (Williams, Column 7, lines 15 to 20)

As per claim 16 Williams teaches:The process according to claim 15, claim 16 adds into claim 15:

wherein removal of the material is carried out in a number of layers corresponding to a value of the grey level. (Williams, Column 8, lines 41 to 45)

As per claim 17 Williams teaches:The process according to claim 16, claim 17 adds into claim 16:

wherein each of the layers is associated with its own polygon network. (Williams, Column 4, lines 17 to 22)

As per claim 18 Williams teaches:The process according to claim 16, claim 17 adds into claim 17:

wherein each polygon to be manipulated in each layer does not have a border portion in common with a previously manipulated polygon. (Williams, Column 4, lines 10 to 17)

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claim 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams. (U.S. Patent 6300595 B1), hereinafter as Williams, In view of Lengyel (U.S. Patent 6573890 B1) hereinafter referred as Lengyel.

As per claim 19. Williams teaches:

generating a three-dimensional computer model of the workpiece
described by a first polygon network (Williams, Column 4, lines 17 to 28)

wherein the master texture bitmap comprises a plurality of image spots, each of which is defined by a grey level value corresponding to the material to be removed; (Williams, Column 7, lines 15 to 20)

determining work areas to be manipulated for removal of material on the three-dimensional surface of the workpiece(Williams, Column 1, lines 46 to 49)

 by means of locating a work area in the focal square of a removal agent, which is a laser; (Williams, Column 1, lines 37 to 45)

wherein the work areas comprise single layers, each of (Williams, Column 1, lines 58 to 60)

the layers describing a polygon network, such that the sum of the work areas correspond to the surface of the workpiece ((Williams, Column 1, lines 54 to 58)

and the sum of the layers correspond to the surface structure of the workpiece; (Williams, Column 1, lines 51 to 53)

wherein the surface of the workpiece is approximated through superposing second polygon networks having a plurality of polygons and (Williams, Column 1, lines 41 to 45)

wherein the superposed polygon networks are offset to each other; (Williams, Column 4, lines 28 to 37)

assigning each polygon of each polygon network within the work area (Williams, Column 1, lines 49 to 51)

with a grey level bitmap from a parallel projection of the master texture bitmap onto the polygon within the work area, and (Williams, Column 4, lines 5 to 10)

removing the material by means of the laser in each layer in correspondence to the values of the grey level bitmap. (Williams, Column 7, lines 15 to 20)

Williams doesn't teach:

providing one or more master texture bitmaps defining two- dimensional spaces; wherein three-dimensional corners of the polygons of the first polygon network correspond to two-dimensional image spots in one or more of the master texture bitmap thereby translating the polygons into the two-dimensional space of the master texture bitmap;

Lengyel teaches:

providing one or more master texture bitmaps defining two- dimensional spaces; (Lengyel, Column 27, lines 56 to 58)

wherein three-dimensional corners of the polygons of the first polygon network correspond to two-dimensional image spots in one or more of the master texture bitmap thereby translating the polygons into the two-dimensional space of the master texture bitmap; (Lengyel, Column 27, lines 58 to 60)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to translate the 3D polygons to two-dimensional spaces of the master

texture bitmap as taught by Lengyel into the process of the Williams to compute texture data for engraving.

As per claim 20. Williams in view of Lengyel teaches: The process according to claim 19, claim 20 adds into claim 19:

wherein the original computer model is derived from the description of the workpiece by CAD-(spline)- surfaces, which result in an original polygon network. (Williams, Column 5, lines 58 to 64)

5.   Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams. (U.S. Patent 6300595 B1), hereinafter as Williams , In view of Lengyel (U.S. Patent 6573890 B1) hereinafter referred as Lengyel as applied to claim 19 above, and in view of Van Overveld (U.S. Patent 6614446 B1) hereinafter referred as Overveld.

As per claim 21. Williams in view of Lengyel teaches: The process according to claim 19.

Williams in view of Lengyel doesn't teach :

wherein the brightness values of the grey level of the grey level bitmaps either before or during manipulation of the surface of the workpiece are computed back to the master texture bitmap.

Overveld teaches:

wherein the brightness values of the grey level of the grey level bitmaps either before or during manipulation of the surface of the workpiece are computed back to the master texture bitmap. (Overveld, Column 1, lines 18 to 24)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to compute brightness value as taught by Overveld into the process of the Williams in view of Lengyel for an appropriate storage of texture data for engraving.

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABDERRAHIM MEROUAN whose telephone number is (571)270-5254. The examiner can normally be reached on Monday to Friday 7:30 AM to 5:00 PM.

7.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pankaj Kumar can be reached on (571) 272-3011. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Abderrahim Merouan
Examiner
Art Unit 4192

/Pankaj Kumar/

Supervisory Patent Examiner, Art Unit 4192